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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------|------------------|
| 10/686,233 | 10/15/2003 | John Sanelli | 72255/33238 | 6359 |
| 23380 | 7590 | 04/05/2006 | EXAMINER CAO, HUEDUNG X | |
| TUCKER, ELLIS & WEST LLP 1150 HUNTINGTON BUILDING 925 EUCLID AVENUE CLEVELAND, OH 44115-1414 | | | ART UNIT 2821 | PAPER NUMBER |

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,233

Applicant(s)

SANELLI ET AL.

Examiner

Huedung X. Cao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 41-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,11,12,18,19,21,23-25,31,32,38 and 39 is/are rejected.
- 7) ☒ Claim(s) 6-10, 13-17, 20, 26-30, 33-37, 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 3, 6, 13, 15, 20, 21, 23, 26, 33, 35, and 40 have been amended to recited "a plurality of active antenna elements, and at least one central passive conductive member" which does not appear to be in the originally filed specification. Thus, the recitation must be treated as "new matter". However, if the applicant does not believe that this subject matter is "new matter", an appropriate explanation is required including pointing out where support for this subject matter can be found in the origin specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 1, 3-4, 11-12, 18-19, 21, 23-24, 31-32, and 38-39 are rejected under 35 U.S.C. 102(e) as being anticipated by CHIANG et al. (US 6864852 B2).

As per claim 1, Chiang teaches that claimed "an antenna" system (Chiang, figure 20, antenna system 300) comprising:

a plurality of antenna elements for sending and receiving a wireless signal (Chiang, figure 20, plurality dipole elements 308, 308A, and 308B);

at least one central conductive member situated between the plurality of antenna elements, having an edge displaced from and substantially directed toward the at least one antenna element (Chiang, figure 20, central element 202), and cooperating therewith to establish a hemispherical beam pattern (Chiang, column 3, lines 17-31).

Claim 3 adds into claim 1 wherein the at least one antenna element comprises a plurality of antenna elements, disposed respectively along the periphery of the at least one conductive member, and cooperating therewith to establish a respective plurality of hemispherical beam patterns (Chiang, figure 20, dipole elements 308, lines 17-31).

Claim 4 adds into claim 3, wherein the at least one antenna element adapted to operate over a first wireless frequency band, and wherein a second portion of antenna elements are adapted to operate over a second wireless frequency band (Chiang, column 16, lines 37-46).

Claim 11 adds into claim 1, wherein the at least one conductive member comprises a single planar element, substantially coplanar with the at least one antenna element (Chiang, figure 20, element 202 and dipole element 308 orient in one planar).

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Claim 12 adds into claim 1, wherein the at least one conductive member comprises a plurality of planar elements, substantially coplanar with the at least one antenna element (Chiang, figure 20, element 202 and dipole elements 308 orient in plurality of planar).

Claim 18 adds into claim I wherein the at least one antenna element is a dipole antenna and the at least one conductive member is at least one discrete component (Chiang, figure 20, dipole element 308, and active element 202);

Claim 19 adds into claim I wherein the at least one antenna element and at least one conductive member are formed on a single piece of circuit board material (Chiang, column 12, lines 56-64).

Claims 21, 23-24, 31-32, and 38-39 are similar in scope to claims 1, 3-4, 11-12, and 18-19; therefore, they are rejected for the same reason.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHIANG et al. (US 6864852 B2) in view of ELSON et al. (US 6,317,100 B1).

As per claim 5, and a similar claim 25, wherein the first and second wireless frequency bands are 2.4 Ghz and 5 GHZ wireless bands which Chiang does not

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explicitly disclose. However, Chiang teaches the antenna 300 resonates at two related frequencies such as 5.25 Ghz and 2.45 Ghz (Chiang, column 16, lines 37-46). It would have been obvious to one of ordinary skill in the art to vary the frequency bands in order to meet with the particular design of the antenna and to maximize the efficiency of the antenna.

Allowable Subject Matter

6. Claims 6-10, 13-17, 20, 26-30, 33-37, and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior Art does not teach wherein the at least one conductive member comprises a plurality of non-intersecting conductive members wherein each conductive member is associated with at least one antenna element; at least one conductive member comprises a substantially angled member; a sandwich module for providing a further level of antenna isolation; the antenna element is shorter than the respective edge of the conductive member.

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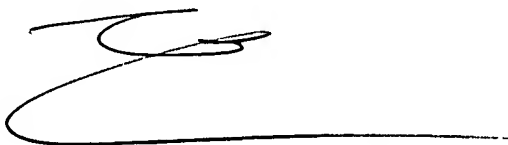
Inquiries

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao
Patent Examiner

A handwritten signature in black ink, appearing to be 'THO PHAN', with a long horizontal stroke extending to the right.

**THO PHAN
PRIMARY EXAMINER**